

Daily Status Report for June 22 2010 Ocean Veritas.

This morning the vessel was still awaiting delivery of the replacement slip ring assembly on the primary CTD. Meanwhile we continued to attempt to deploy a back-up CTD system without real-time communication capability. Problems with the connectivity of the back-up fluorometer were apparently solved yesterday evening although the system had no altimeter and no bottle-firing capability, i.e. only CTD and fluorometer traces were possible.

Without depth detection capability we decided to make casts at stations that we had visited before, and therefore already had accurate depth information. Yesterday evening we occupied two stations that were previously visited on 6/16/10 as OV055 and OV054. At first data retrieval problems were encountered and initial traces showed incorrect dissolved oxygen data due to a scaling problem. This problem was corrected this morning, and these stations were given the designations OV057 and OV058 (OV056 was aborted without a CTD trace).

Three more stations were occupied today, all in the NE transect. OV059 and OV060 (previously OV053 and OV052) along with OV057 and OV058 completed an arc 7.5Km from the wellhead in the NE quadrant. The fifth station (OV061 occupied today) was also NE of the well head but much closer to the source (1Km). This was previously visited as OV051 on 6/15/10. Soon after arriving at this station (at 1105h) we took delivery of the slip ring assembly via crew boat from Fourchon. The decision was made to complete the cast at this station using the secondary CTD system and to remain on station while the primary CTD system was rebuilt. Following reassembly of the primary CTD system with the replacement slip ring assembly, our plan was to repeat a cast at this station with the primary CTD thereby comparing the two systems at the same position. The first cast using the secondary system was made at 1330h (OV061) and the second cast, following the rebuild of the primary system was made at 1630h (OV062).

The trace for OV057 was characterized by a double line for all parameters showing both the 'down cast' and the subsequent upward trace. This double trace was eliminated in subsequent traces for temperature, salinity and dissolved oxygen, although the fluorometer records retained a 'down trace' component that was relatively smooth, and an 'up trace' element characterized by a significant degree of 'negative noise'. Traces from OV058 and the final two casts indicated weak but distinct signal around 1100-1200m, but with positive and negative (below base line) components. A map showing stations visited during this cruise appears below.

OV062 was the only cast from this cruise from which Niskin bottle samples were available, although the two last bottles (50m and 3m) failed to fire. The remaining six bottles provided samples for a limited number of LISST particulate analyses, and a file containing these analyses accompanies this report.

Rotifer toxicity bioassays were set up for four depths from OV062, respectively: 1310m, 1240m, 1150m and 500m. (3m sample was lost, bottle failed to fire). A file documenting this set-up accompanies this report.

Following the last cast (OV062) of the primary CTD array, the system again lost connectivity and was judged to require more long-term repairs, including a long curing period for the sealing compound. At 1800h the vessel, therefore, left the site and headed for Port Fourchon.

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